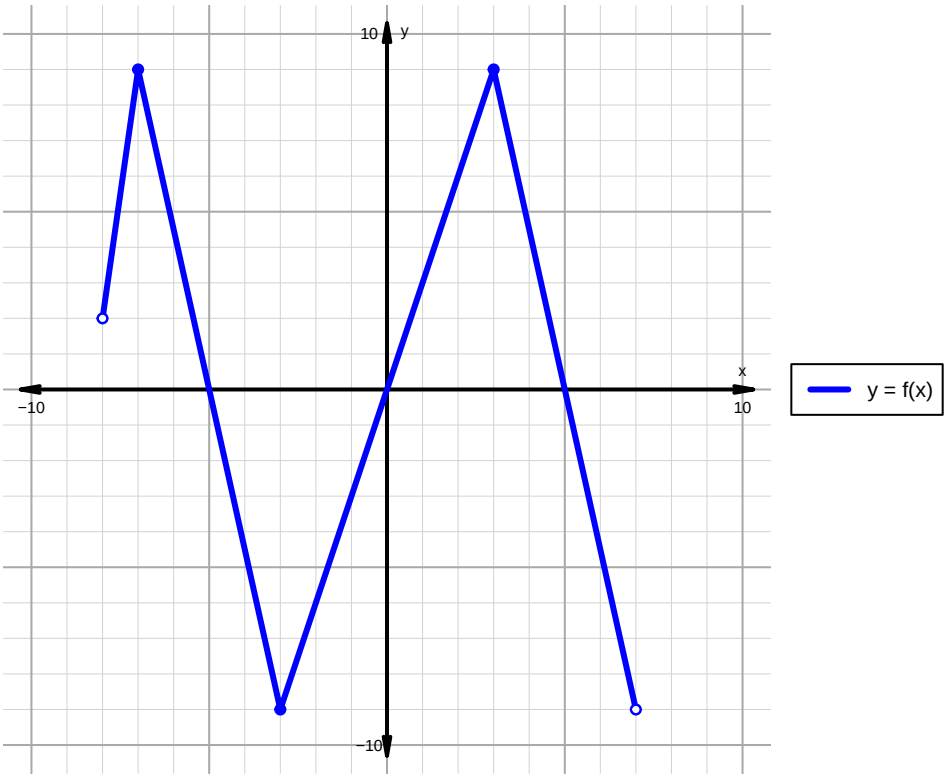
Name: Date:

Intervals, Transformations, and Slope Solution (version 150)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8,-5)\cup(0,5)$
Negative	$(-5,0)\cup(5,7)$
Increasing	$(-8,-7)\cup(-3,3)$
Decreasing	$(-7,-3)\cup(3,7)$
Domain	$(-8,7)$
Range	$(-9,9)$

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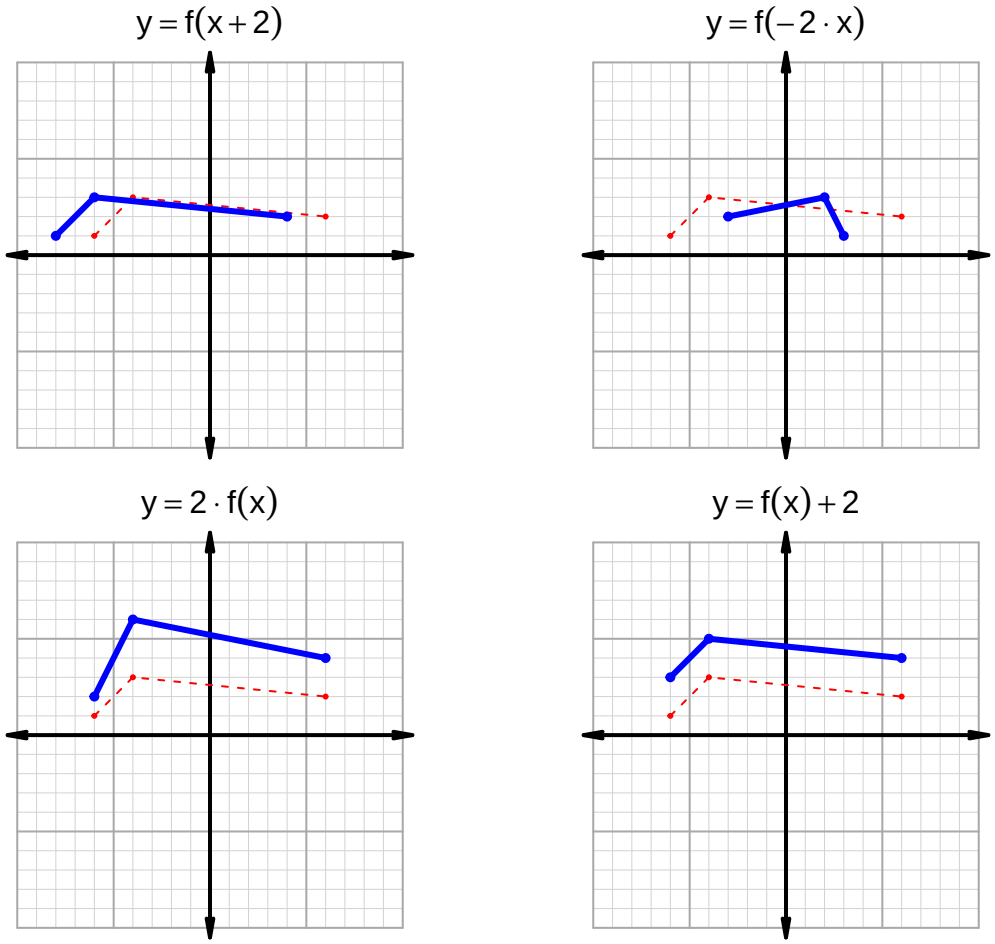
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 60$ and $x_2 = 81$. Express your answer as a reduced fraction.

x	$g(x)$
15	60
43	81
60	43
81	15

$\frac{f(81)-f(60)}{81-60} = \frac{15-43}{81-60} = \frac{-28}{21}$

The greatest common factor of -28 and 21 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-4}{3}$$